

CLAIMS

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1. A branch prediction method using a trace cache comprising the steps of:
if a routine composed of unrepeatd instruction is to be executed, storing an
address corresponding to each instruction in the trace cache according to an order of
executed instructions; and

if a routine composed of repeated instructions is to be executed, storing a routine
start address, a routine end address, current access times of the routine, and total access
times of the routine.

2. The method of Claim 1, wherein the trace cache includes loop counters for
counting the current access times and the total access times, if the routine composed of
repeated instructions is carried out.

3. The method of Claim 2, further comprising addressing a start address which
will be subsequent to the routine, if values of the loop counters are identical to each other.

4. The method of Claim 2, further comprising recomposing the loop counter if
branch prediction is missed, wherein the loop counter utilizes the latest updated loop count
value.